WHAT IS CLAIMED IS:

1. A wireline logging method, comprising:

estimating a data rate requirement associated with a tool string to be connected to a wireline cable;

determining an operating characteristic of a wireline cable at the surface, wherein the operating characteristic is indicative of the wireline cable's data rate capacity;

before inserting the wireline cable into a well bore, modeling a down hole value of the operating characteristic and deriving a down hole data rate capacity based thereon; and

upon determining that the estimated data rate requirement does not match the down hole data rate capacity, modifying the tool string.

2. The method of claim 1, wherein determining the operating characteristic is further characterized as measuring the operating characteristic of the wireline cable.

3. The method of claim 2, wherein measuring the operating characteristic is further characterized as measuring the operating characteristic of the wireline cable as a function of frequency.

4. The method of claim 1, wherein determining the operating characteristic is further characterized as determining the attenuation of the wireline cable.

5. The method of claim 1, wherein determining the operating characteristic is further characterized as determining the signal-to-noise ratio (SNR) of the wireline cable.

6. The method of claim 1, wherein modeling the down hole value of the operating characteristic is further characterized as modeling the down hole operating characteristic based on a linear temperature gradient assumption.

7. The method of claim 1, wherein modeling the down hole value of the operating characteristic is further characterized as modeling the down hole operating characteristic based on a two-part temperature gradient assumption, wherein the temperature is constant for a first part of the wireline and the temperature gradient is linear for a second part of the wireline.

8. The method of claim 1, wherein modeling the down hole value of the operating characteristic is further characterized as modeling the down hole operating characteristic based on a two-part temperature gradient assumption, wherein the temperature is decreases with depth for a first part of the wireline and the temperature increases with depth for a second part of the wireline.

9. The method of claim 1, wherein modeling the down hole value of the operating characteristic includes accessing archived data of the operating characteristics of other wireline systems at various temperatures and deriving the modeled characteristic is based on the archived data.

10. The method of claim 1, wherein modifying the tool string comprises eliminating a tool from the tool string when the estimated data rate requirement exceeds the derived down hole data rate capacity.

11. The method of claim 1, wherein modifying the tool string comprises adding a tool to the tool string when the estimated data rate requirement is less than the derived down hole data rate capacity.

12. A system for optimizing a tool string assembly before inserting a wireline cable and the tool string assembly into a well bore, comprising:

an analyzer to determine a down hole value of an operating characteristic for the wireline cable wherein the operating characteristic is indicative of the cable's data capacity;

a modeler enabled to predict the down hole value of the operating characteristic when the wireline cable is inserted into the well bore;

means for indicating when a data rate corresponding to the predicted down hole value of the operating characteristic is not matched to a data rate required by the tool string.

13. The system of claim 12, wherein the analyzer is configured to measure the operating characteristic of the wireline cable.

14. The system of claim 13, wherein analyzer is further configured to measure the operating characteristic of the wireline cable as a function of frequency.

15. The system of claim 12, wherein the operating characteristic is further characterized as the attenuation of the wireline cable.

16. The system of claim 12, wherein the operating characteristic is further characterized as the signal-to-noise ratio (SNR) of the wireline cable.

17. The system of claim 12, wherein the modeler predicts the down hole value of the operating characteristic based on a linear temperature gradient assumption.

18. The system of claim 12, wherein the modeler predicts the down hole value of the operating characteristic based on a two-part temperature gradient assumption, wherein the temperature is constant for a first part of the wireline and the temperature gradient is linear for a second part of the wireline.

19. The system of claim 12, wherein the modeler predicts the down hole value of the operating characteristic based on a two-part temperature gradient assumption, wherein the temperature is decreases with depth for a first part of the wireline and the temperature increases with depth for a second part of the wireline.

20. The system of claim 12, wherein the modeler accesses archived data of the operating characteristics of other wireline systems at various temperatures and derives the modeled characteristic based on the archived data.

21. A computer-readable medium having a set of machine-executable instructions for optimizing a tool string for use with a wireline logging system, comprising:

computer code means for determining a data rate requirement for the tool string;

computer code means for modeling a down hole value of an operating characteristic of the tool string and its associated wireline cable; and

computer code means for estimating a data rate capacity of the wireline cable based on the modeled down hole value and for comparing the estimated data rate capacity to the determined data rate requirement and indicating when the estimated data rate capacity and the determined data rate requirement are mismatched.

22. The computer program product of claim 21, wherein modeling the down hole value of the operating characteristic is further characterized as modeling the down hole value of the wireline cable as a function of frequency.

23. The computer program product of claim 21, wherein the code means for modeling the down hole value are further characterized as code means for modeling the down hole value based on a linear temperature gradient assumption.

24. The computer program product of claim 21, wherein the code means for modeling the down hole value are further characterized as modeling the down hole value based on a two-part temperature gradient assumption, wherein the temperature is constant for a first part of the wireline and the temperature gradient is linear for a second part of the wireline.

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25. The computer program product of claim 21, wherein the code means for modeling the down hole value of the operating characteristic are further characterized as modeling the down value based on a two-part temperature gradient assumption, wherein the temperature is decreases with depth for a first part of the wireline and the temperature increases with depth for a second part of the wireline.

26. The computer program produce of claim 21, wherein the operating characteristic is further characterized as the attenuation of the wireline cable.

27. The computer program product of claim 21, wherein the operating characteristic is further characterized as the signal-to-noise ratio (SNR) of the wireline cable.